

**REMARKS**

Claims 1, 3-6 and 8-12 are pending in the above-captioned application, and believed to be in condition for allowance. It is acknowledged that the above-captioned application is under final rejection, although Applicant disagrees that the amendments made in the Response filed November 15, 2005 necessitated the new grounds of rejection; accordingly, the finality of the outstanding Office Action should be withdrawn. In any event, the remarks hereinbelow establish the patentability of the pending claims of the above-captioned application, and all pending claims should be passed to allowance.

**Prior Art Rejections**

Claims 1 and 5 stand rejected under 35 U.S.C. §102(b) over Klug (U.S. 6,663,807). In addition, claims 3 and 4 stand rejected under 35 U.S.C. §103(a) over Klug '807.

Claims 6 and 8-12 stand rejected under 35 U.S.C. §103(a) over Klug '807 in view of Mercuri (U.S. 6,605,379) or Norley (U.S. 6,777,086).

As a first point, the Office Action acknowledges that the Klug '807 patent is silent as to the presence of non-uniform resin concentration across the thickness of the sheet of graphite (see para. 5, page 3 of the Office Action). Anticipation can only be present when a single reference discloses each limitation of a claim, arranged as in

that claim. Hence, Klug '807 cannot and does not anticipate claims 1 and 5 which include the through-thickness non-uniform limitation.

Accordingly, the rejection of claims 1 and 5 under 35 U.S.C. §102(b) should be withdrawn. Since this is the only rejection of claims 1 and 5, both claims, as well as all claims depending therefrom, should be allowed.

With respect to the remaining claims, Klug '807 makes clear that, while the subject graphite sheet is variably impregnated with resin, such variable impregnation is across a width of the sheet (see, e.g., col. 4, lines 5-8 and 24-26). This width-wise variable impregnation correlated with the thickness of the sheet after embossing, and teaches away from the invention of the rejected claims. In the above-captioned application, variable resin concentration is provided through the thickness of the sheet, not across its length or width, in order to provide different characteristics of graphite sheet at its two major surfaces, as well as therebetween. While one of the advantages in doing so is to provide a surface optimized for the formation of structures thereon, such as through embossing, other advantages can also be achieved, such as improved release characteristics, sealing characteristics, etc.

Nothing in the Klug '807 disclosure of across-width resin variation correlated to the thickness of the final embossed sheet can or does suggest through-thickness variable resin impregnation, which permits the production of an engineered graphite

sheet having different characteristics as one considers the cross-section of the sheet, nor the advantages of doing so. As such, Klug '807 does not render obvious the inventions of claims 3 and 4.

The secondary references to Mercuri and Norley do not provide any additional disclosure which would, when combined with Klug '807, suggest the inventions of claims 6 and 7-12. Neither secondary reference provides the suggestion or motivation to so completely change the teaching of Klug '807 from across-width variable resin impregnation to through-thickness variable resin impregnation, and, as such, the claims are not obvious and should be allowed.

As shown, nothing in the cited patents, even if combined, discloses or suggests the invention of any of claims 1, 3-6 or 8-12. Allowance of all of these claims is believed appropriate and is requested.

#### CONCLUSION

Based on the foregoing amendments and remarks, it is believed that allowance of all pending claims 1, 3-6 and 8-12 is appropriate. Such action is earnestly sought. If there remains any matter which prevents the allowance of any of these claims, the Examiner is requested to call the undersigned collect at 615.242.2400 to arrange for an interview which may expedite prosecution.

The Commissioner is authorized to charge any deficiency attendant to the filing  
of this response to Deposit Account No. 50-1202.

Respectfully submitted,

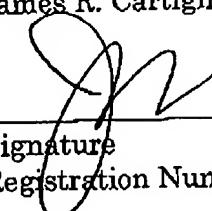
  
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**CERTIFICATE OF FACSIMILE TRANSMITTAL**

I hereby certify that this Response To Office Action, including Certificate of Facsimile Transmittal are being facsimile transmitted to the United States Patent and Trademark Office, Fax No. 571.273.8300 on march 24, 2006.

James R. Cartiglia

  
Signature  
Registration Number 30,738